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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/997,839	11/29/2001	Rajiv Maheshwari	020581-000400US	4608

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EXAMINER

MADAMBA, GLENFORD J

ART UNIT	PAPER NUMBER
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2151

DATE MAILED: 02/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/997,839	Applicant(s) MAHESHWARI, RAJIV	
	Examiner Glenford Madamba	Art Unit 2151	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 29 November 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Riciulli, U.S. Patent 6,269,370.

3. Claim 1 discloses a method for transferring messages in a distributed communication network, wherein the distributed communication network includes a message source coupled to a message destination by a plurality of message paths [Col 2, Lines 15-18], each of the message paths including at least one overlay route processor coupled to the message source by at least one network path, the network path including intervening network components, the method comprising: choosing a

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plurality of candidate overlay route processors [Col 2, Lines 28-38], ascertaining the identity of the intervening network components in the network paths between the message source and each of the candidate overlay route processors [Col 11, Lines 50-56 & 59-66; Col 4, Lines 65-77 & Col 5, Lines 1-4], selecting a plurality of selected overlay route processors from the candidate overlay route processors based on minimizing the number of overlapping intervening network components in the network paths between the message source and the selected overlay route processors [Col 6, Lines 4-65] by analyzing the ascertained identities of the intervening network components [Col 11, Lines 50-56 & 59-66; Col 4, Lines 65-77 & Col 5, Lines 1-4], and transferring a message from the message source to the selected overlay route processors along the network paths with a minimized number of overlapping intervening network components [Col 2, Lines 28-46, Col 7, Lines 10-13 & Figure 4a].

4. Claim 2 cites the method of claim 1, further comprising during the selecting step, selecting a plurality of selected overlay route processors with zero overlapping intervening network components in the network paths between the message source and the selected overlay route processors [Figure 1; Col 7, Lines 66-67 & Col 8, Lines 1-67 & Col 9, Lines 1-8]. As discussed by Riciulli, client node 100 can send a message to destination node 160 via 130a, as a one-hop path. In similar fashion, any of the other overlay nodes depicted, 130b-130n, can be selected to execute the same one-hop overlay path performed by 130a for transmitting a message from source node to destination node, without having any overlapping intervening network components

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between them. The same principle can be applied to the multi-hop example discussed by Riciulli using pluralities of the described overlay path.

5. Claim 3 asserts the method of claim 1, wherein the choosing step includes choosing at least five candidate overlay route processors [Col 2, Lines 33-39].

6. Claim 4 stipulates the method of claim 1, wherein the ascertaining step includes ascertaining the identity of intervening network components including intervening routers, intervening switches and intervening firewalls [Col 5, Lines 21-38].

7. Claim 5 states the method of claim 1, wherein the selecting of a plurality of selected overlay route processors from the plurality of candidate overlay route processors is based initially on minimizing the number of overlapping intervening network components in the network paths between the message source and the selected overlay route processors and then based on minimizing the number of intervening network components [Col 6, Lines 4-65].

8. Claim 6 asserts the method of claim 1, wherein the selecting of a plurality of selected overlay route processors from the plurality of candidate overlay route processors is based initially on minimizing the number of overlapping intervening network components in the network paths between the message source and the selected overlay route processors [Col 6, Lines 4-65] and then based on maximizing the

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transmission speed between the message source and the selected overlay route processors [Col 11, Lines 50-52].

9. Claim 7 states the method of claim 1, wherein the ascertaining step includes ascertaining the IP-address identity of the intervening network components [Col 5, Lines 30-35 & Col 7, Lines 58-65].

10. Claim 8 notes the method of claim 7, wherein the ascertaining step uses a series of User Datagram Protocol (UDP) packets [Col 11, Lines 50-56].

11. Claim 9 points to the method of claim 7, wherein the ascertaining step uses a series of Internet Control Message Protocol (ICMP) packets [Col 11, Lines 59-66].

12. Claim 10 references the method of claim 1, further comprising during the transferring step, transferring a message from a connector message source **100** (Figure 1) [Col 4, Lines 16-22].

13. Claim 11 discloses a method for transferring messages in a distributed communication network, wherein the distributed communication network includes a connector message source (source node **100**) coupled to a connector message destination (destination node **160**) by a plurality of message paths [Col 2, Lines 15-18], each of the message paths including at least one overlay route processor coupled to the

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message source by at least one network path, the network path including intervening network components, the method comprising: choosing a plurality of candidate overlay route processors [Col 2, Lines 28-38], ascertaining the IP-address identity of the intervening network components in the network paths between the connector message source and each of the candidate overlay route processors [Col 5, Lines 30-35 & Col 7, Lines 58-65], selecting two selected overlay route processors from the plurality of candidate overlay route processors based on minimizing the number of overlapping intervening network components in the network paths between the connector message source and the two selected overlay route processors [Col 6, Lines 4-65] by analyzing the ascertained IP-address identities of the intervening network components , and transferring a message from the connector message source to the two selected overlay route processors along the network paths with a minimized number of overlapping intervening network components [Col 2, Lines 28-46, Col 7, Lines 10-13 & Figure 4a].

14. Claim 12 states the method of claim 11, further comprising during the selecting step, selecting two selected overlay route processors with zero overlapping intervening network components in the network paths between the connector message source and the two selected overlay route processors [refer to #4 as discussed for Claim 2].

Conclusion

1. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Callon, Patent No. 6256295, describes a system for determining a plurality of minimally-overlapping paths between a source node and a destination node in a network. A first path is determined between the source node and the destination node. Additionally, a second path between the source node and the destination node is determined. If the first and second paths overlap, the system modifies at least one path to minimize the overlap of the paths. Both the first path and the second path contain a plurality of path elements in which the path elements including nodes and links between nodes such that a cost is assigned to both nodes and links.

Hughes, Patent No. 6636509, discloses a rapid method for remapping the type of service (TOS) and source address information from an incoming communications packet according to the desired QoS required for the communications flow into a switch or router. Included is a discussion of prior art policy routing schemes that define a limited number of custom routing paths for packets based on certain criteria such as source address or physical flow input port.

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McCane, Patent No. 6611872, describes an overlay protocol and system for allowing multicast routing in the Internet to be performed at the application level. The overlay protocol uses 'native' Internet multicast and multicast routing protocols to route information, according to overlay routing tables. Overlay routers are placed at each of several local area networks, Internet service provider's point of presence, enterprise, or other managed locations.

Rajan, Patent No. 6836465, discloses a system for extracting and building end-to-end route information in a multi-area Internet protocol autonomous system. The system enables a user to explicitly identify a full set of paths (links and routers) that a given IP packet would potentially traverse from its entry point in the source area of the AS where it originates until its exit point in its intended destination area.

2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Glenford Madamba whose telephone number is 571-272-7989. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zarni Maung can be reached on 571-272-3932. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Glenford Madamba
Examiner
Art Unit 2151


ZARNI MAUNG
SUPERVISORY PATENT EXAMINER